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The Future of Lithium in North America

Creating a Leading U.S. Lithium Business

October 2025

www.standardlithium.com



Cautionary Statement



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This presentation also includes certain estimates and projections that are based on internal models. Although the estimates are based upon assumptions and analysis that we believe to be reasonable, there can be no assurance that actual results will not differ, perhaps materially, from the estimates presented in this presentation.

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Forward-Looking Statements

Except for statements of historical fact, this Presentation contains certain "forward-looking information" within the meaning of applicable Canadian securities legislation and "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995 (collectively referred to herein as "forward-looking information"). The statements relate to future events or the Company's future performance. All statements, other than statements of historical fact, may be forward-looking information. Information concerning mineral resource and mineral reserve estimates also may be deemed to be forward-looking information in that it reflects a prediction of mineralization that would be encountered if a mineral deposit were developed and mined. Forward-looking information generally can be identified by the use of words such as "seek", "anticipate", "plan", "continue", "estimate", "expect", "may", "will", "project", "predict", "propose", "potential", "target", "intend", "could", "might", "should", "believe", "scheduled", "implement" and similar words or expressions. These statements involve known and unknown risks, uncertainties and other factors that may cause actual results or events to differ materially from those anticipated in such forward-looking information.

In particular, this Presentation contains forward-looking information, including, without limitation, with respect to the following matters or the Company's expectations relating to such matters: the Company's planned exploration and development programs (including, but not limited to, plans and expectations regarding advancement, testing and operation of the lithium extraction pilot plant and expected collaboration with Equinor ASA ("Equinor")); commercial opportunities for lithium products; filing of technical reports; expected results of exploration; accuracy of mineral or resource exploration activity; accuracy of mineral reserves or mineral resources estimates, including the ability to develop and realize on such estimates; whether mineral resources will ever be developed into mineral reserves, and information and underlying assumptions related thereto; budget estimates and expected expenditures by the Company on its properties; regulatory or government requirements or approvals; the reliability of third party information; continued access to mineral properties or infrastructure; payments obligations pursuant to property agreements; fluctuations in the market for lithium and its derivatives; expected timing of the expenditures; performance of the Company's business and operations; changes in exploration costs and government regulation in Canada and the United States; competition for, among other things, capital, acquisitions, undeveloped lands and skilled personnel; changes in commodity prices and exchange rates; currency and interest rate fluctuations; the Company's funding requirements and ability to raise capital; geopolitical instability; war (such as Russia's invasion of Ukraine and the war in the Middle East); health and safety protocols and their efficacy and impacts on timelines and budgets; and other factors or information.

Forward-looking information does not take into account the effect of transactions or other items announced or occurring after the statements are made. Forward-looking information is based upon a number of expectations and assumptions and is subject to a number of risks and uncertainties, many of which are beyond the Company's control, that could cause actual results to differ materially from those that are disclosed in or implied by such forward-looking information. With respect to forward-looking information listed above, the Company has made assumptions regarding, among other things: current technological trends; ability to fund, advance and develop the Company's properties; the Company's ability to operate in a safe and effective manner; uncertainties with respect to receiving, and maintaining, mining, exploration, environmental and other permits; operation of a joint venture ownership structure with Equinor; pricing and demand for lithium, including that such demand is supported by growth in the electric vehicle market; impact of increasing competition; commodity prices, currency rates, interest rates and general economic conditions; the legislative, regulatory and community environments in the jurisdictions where the Company operates; impact of unknown financial contingencies; impacts of changes in current and future trade agreements, legislation, regulations, import tariffs and other similar trade barriers; market prices for lithium products; budgets and estimates of capital and operating costs; estimates of mineral resources and mineral reserves; reliability of technical data; anticipated timing and results of operation and development; inflation; war (such as Russia's invasion of Ukraine); and the impact of health and safety protocols on the Company and its business. Although the Company believes that the assumptions and expectations reflected in such forward-looking information are reasonable, the Company can give no assurance that these assumptions and expectations will prove to be correct. Since forward-looking information inherently involves risks and uncertainties, undue reliance should not be placed on such information.

Cautionary Statement (continued)



Forward-looking information involves known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking information. Such factors include, but are not limited to: general economic conditions in Canada, the United States and globally; industry conditions, including the state of the electric vehicle market; governmental regulation of the mining industry, including environmental regulation; geological, technical and drilling problems; unanticipated operating events; reliance upon joint venture partners and disagreements surrounding project development; competition for and/or inability to retain drilling rigs and other services and to obtain capital, undeveloped lands, skilled personnel, equipment and inputs; the availability of capital on acceptable terms; the need to obtain required approvals from regulatory authorities; uncertainties associated with estimating mineral resources and mineral reserves, including uncertainties relating to the assumptions underlying mineral resource and mineral reserve estimates; whether mineral resources will ever be converted into mineral reserves; uncertainties in estimating capital and operating costs, cash flows and other project economics; liabilities and risks, including environmental liabilities and risks inherent in mineral extraction operations; health and safety risks; risks related to unknown financial contingencies, including litigation costs, on the Company's operations; unanticipated results of exploration activities; unpredictable weather conditions; unanticipated delays in preparing technical studies; inability to generate profitable operations; restrictive covenants in debt instruments; lack of availability of additional financing on terms acceptable to the Company; intellectual property risk; stock market volatility; volatility in market prices for commodities; liabilities inherent in the mining industry; inflation risks; risks related to war (such as Russia's invasion of Ukraine); global pandemics; changes in tax laws and incentive programs relating to the mining industry; other risks pertaining to the mining industry; conflicts of interest; dependency on key personnel; and fluctuations in currency and interest rates, as well as those factors discussed in the section entitled "Risk Factors" in the Company's AIF.

Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking information, there may be other factors that cause actions, events or results to differ from those anticipated, estimated or intended.

Readers are cautioned that the foregoing lists of factors are not exhaustive. All forward-looking information in this this Presentation speaks as of the date of this Presentation. The Company does not undertake any obligation to update or revise any forward-looking information, whether as a result of new information, future events or otherwise, except as required by law. All forward-looking information contained in this Presentation is expressly qualified in its entirety by this cautionary statement. Additional information about these assumptions and risks and uncertainties is contained in the Company's filings with securities regulators, including the Company's most recent MD&A for our most recently completed financial year and, if applicable, interim financial period, which are available on SEDAR+ at www.sedarplus.com and EDGAR at www.sec.gov.

Currency

Except where otherwise indicated, all references to currency in this Presentation are to U.S. Dollars ("\$").

NI 43-101 Disclosure

Scientific and technical information in this Presentation has been reviewed and approved by Steve Ross, P. Geo., Vice President Resource Development, of the Company, who is a "qualified person" under National Instrument 43-101 – ***Standards of Disclosure for Mineral Projects*** ("NI 43-101").

Further information about the South West Arkansas ("SWA") Project, including a description of key assumptions, parameters, methods and risks, is available in the NI 43-101 technical report titled "South West Arkansas Project NI 43-101 Technical Report & Definitive Feasibility Study, Arkansas, United States" dated October 14, 2025 (the "South West Arkansas DFS"), available under the Company's SEDAR+ profile.

Further information about the Franklin Project is available in the news release issued by the Company on September 24, 2025, also available under the Company's SEDAR+ profile.

Further information about the Lanxess Property ("Lanxess") Project, including a description of key assumptions, parameters, methods and risks, is available in the NI 43-101 technical report titled "Amended and Restated NI 43-101 Technical Report for the Definitive Feasibility Study for Commercial Lithium Extraction Plant at Lanxess South Plant", dated July 23, 2025 ("Lanxess DFS"), available under the Company's SEDAR+ profile.

The mineral resources and mineral reserves contained in this Presentation have been prepared in accordance with the requirements of securities laws in effect in Canada, including NI 43-101, which governs Canadian securities law disclosure requirements for mineral properties.

NI 43-101 differs from the requirements of the United States Securities and Exchange Commission ("SEC") that are applicable to domestic United States reporting companies. Any mineral resources or reserves reported by the Company herein may not be comparable with information made public by United States companies subject to the SEC's reporting and disclosure requirements.

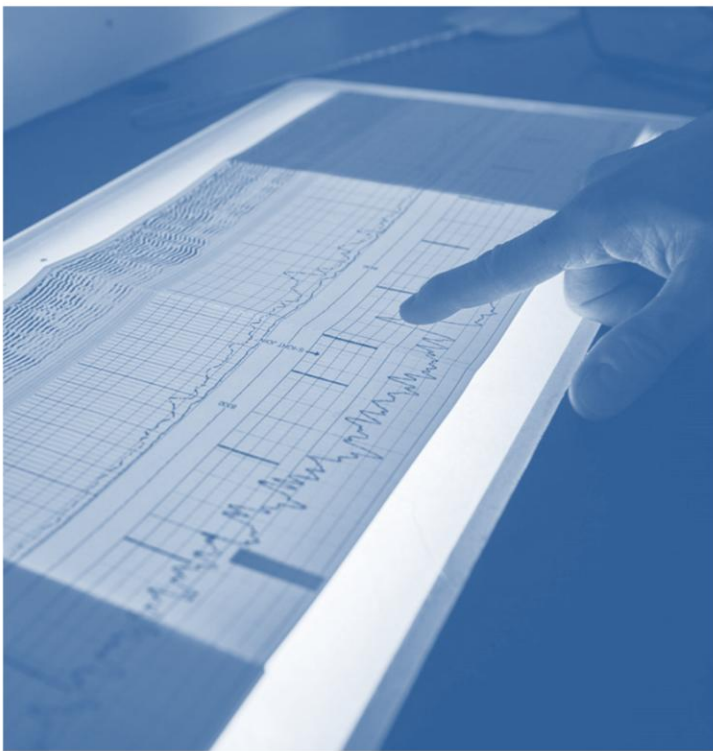
Non-GAAP Measures

This Presentation includes certain performance measures ("non-GAAP measures") which are not specified, defined, or determined under generally accepted accounting principles (in the Company's case, International Financial Reporting Standards, or "IFRS").

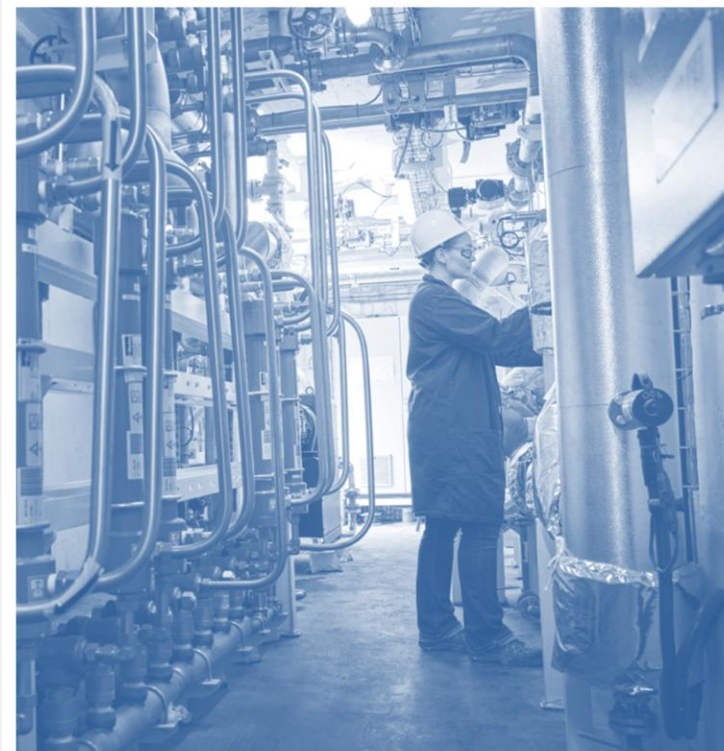
These are common performance measures in the lithium mining industry, but because they do not have any mandated standardized definitions, they may not be comparable to similar measures presented by other issuers. Accordingly, the Company uses such measures to provide additional information and readers should not consider them in isolation or as a substitute for measures of performance prepared in accordance with generally accepted accounting principles ("GAAP").



Standard Lithium aims to be a leading low-cost sustainable U.S. lithium producer



Plans for attractive near-term commercial-scale production by applying innovative technologies to our world class assets in Arkansas and Texas



We are building projects with our global partners in a region with broad stakeholder and regulatory support

Investment Highlights



Premier Lithium Resource in North America

Smackover is North America's **highest grade lithium brine** – concentrations up to 616 mg/L in Arkansas¹ and up to 806 mg/L in East Texas²



Advantaged Cost Structure

High grade resource, proven commercial-scale technology and infrastructure drives low operating costs – expected to rank in **first (lowest) quartile of global cost curve**³



Strong Government Support

South West Arkansas (“SWA”) Project identified as transparency project on Federal Permitting Dashboard⁴, and awarded **\$225 million grant from the U.S. Department of Energy (“DOE”)**⁵



Strategic Location

Assets located in areas with **established natural resource extraction industries, infrastructure and skilled workforce**, as well as proximity to key battery supply chains



World-Class Partners

Partnerships bring complementary resources and expertise: Equinor provides subsurface and large-project delivery experience and Aquatech aids in development of flowsheet and technology, including providing performance guarantees



Advanced and De-risked Project Development

Finalized SWA Definitive Feasibility Study, which supports a **highly attractive asset**, and completed extensive field testing of DLE technology to **de-risk performance**



Attractive Market Fundamentals

Global lithium demand projected to reach 2.8 million tonnes of lithium carbonate equivalent (“LCE”) by 2030 – a near doubling from 2025 levels⁶ – with **strong U.S. support for advancing domestic production**⁷

1. Standard Lithium press release on July 15, 2025
 2. Standard Lithium press release on October 25, 2023
 3. Source: Benchmark Minerals Q3 2025 Lithium Forecast
 4. Standard Lithium press release on April 21, 2025. Inclusion on the Permitting Dashboard as a FAST-41 transparency project highlights the project's role in

advancing domestic critical mineral lithium production and supporting U.S. energy independence but does not create an assumption of project approval, favorable review or federal funding.
 5. DOE grant awarded to SWA Lithium LLC, a jointly-owned U.S. subsidiary of Standard Lithium and Equinor for initial phase of SWA Project
 6. Q3 2025 Fastmarkets Lithium 10-Year Forecast
 7. Executive Order 'Immediate Measures to Increase American Mineral Production' signed March 20, 2025

Delivering Made-in-America Lithium

Since 2017, Standard Lithium has executed a focused strategy built on four core pillars, which we believe positions the company to deliver domestically produced lithium by 2028

SECURE THE BEST RESOURCE

- Entered Smackover through Tetra Option Agreement (part of South West Arkansas Project)



UNLOCK RESOURCE WITH PROVEN TECHNOLOGY

- Executed a Memorandum of Understanding (MoU) with Lanxess to Expand Smackover Presence



- Began Operations of DLE Demo Plant at Lanxess Bromine Operations



- Executed Joint Development Agreement with Koch (now Aquatech¹) to Develop and Commercialize DLE



DE-RISK RESOURCE AND TECHNOLOGY

- Entered Strategic Partnership with Equinor
- Executed DLE Technology License for SWA Project²



- Completed Brine Field Tests in Final De-Risking Step³
- Finalized \$225mm Grant from DOE⁴
- Released Maiden Resource for First Project in East TX (Franklin)⁵



ALIGN WITH THE RIGHT PARTNERS

- Targeting First Commercial Production at South West Arkansas Project

2017

2018

2020

2021

2024

2025

2028

1. For further details see Aquatech press release dated September 16, 2025

2. Press release dated October 28, 2024, signed license agreement with Koch Technology Solutions (now Aquatech) to deploy and use Li-Pro™ Lithium Selective Sorption ("Li-Pro LSS") technology at SWA Phase 1

3. Standard Lithium press release dated March 11, 2025

4. Standard Lithium press release on January 16, 2025; DOE grant awarded to SWA Lithium LLC, a jointly-owned U.S. subsidiary of Standard Lithium and Equinor for initial phase of SWA Project

5. Standard Lithium press release on September 24, 2025

The Smackover: A World-Class Lithium Resource



High-quality lithium brine resource

- Some of the highest recorded lithium concentrations outside of South America
- 8+ billion gallons of brine processed annually in Arkansas for bromine production¹



Proven reservoir with significant geological understanding

- 100+ years of energy operations
- 60+ years of continuous brine extraction operations¹
- Geologic data from thousands of wells



Significant infrastructure to support growth

- Region is home to one of North America's largest and oldest brine processing industries¹
- Gulf Coast chemical industry provides ease of access to key reagents
- Availability of water, power, natural gas, road, rail and skilled labor



1. Arkansas Department of Energy and Environment, "Lithium Facts"
 2. Identified locations for Albemarle, ExxonMobil, and Chevron include both bromine and lithium operations
 3. Chevron press release on June 17, 2025. Chevron recently acquired two leasehold acreage positions across regions in Northeast Texas and Southwest Arkansas
 4. Arkansas Department of Energy and Environment dated August 2025, "Lithium Update"

Developing Highly Attractive U.S. Lithium Assets

SOUTH WEST ARKANSAS



EAST TEXAS



Ownership:

55% Standard Lithium / 45% Equinor¹

Key Highlights:

- Avg. concentration of **442 mg/L** on M&I resource with results **up to 616 mg/L²**
- Closed **\$225 million grant** from DOE³
- Included as transparency project on Federal Permitting Dashboard⁴

Key Highlights:

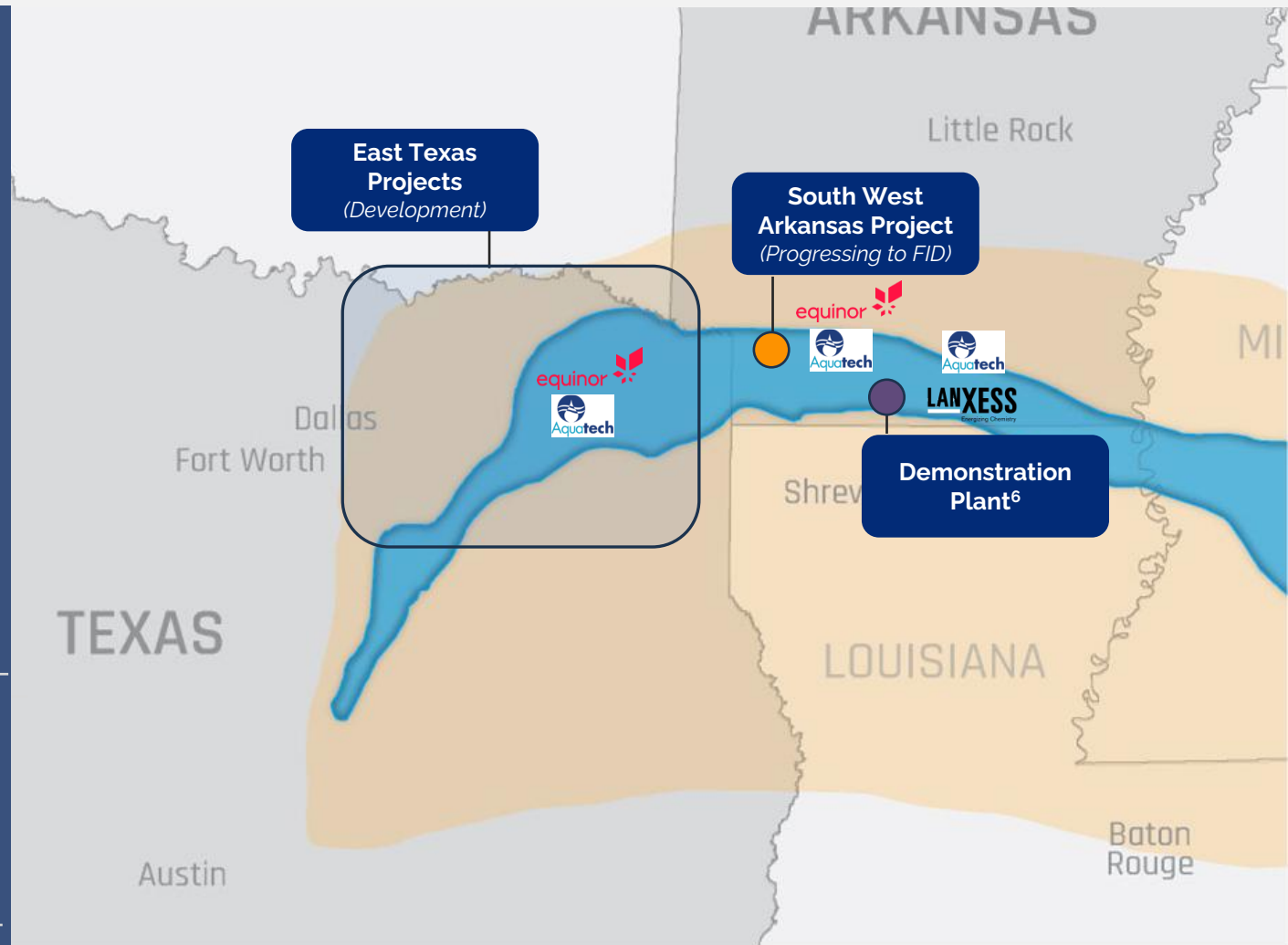
- Avg. concentration of **668 mg/L** on maiden inferred resource (Franklin Project) with results **up to 806 mg/L**, and significant potash and bromine concentrations⁵
- Potential for significant upside with further exploration

Production:

- Initial capacity of **22,500 tonnes per annum ("TPA") lithium carbonate**, with significant further expansion opportunity²
- Targeting commercial production in **2028**

Production:

- Targeting a resource-based capacity for potential production of **100,000+ TPA LCE** over three projects



1. Standard Lithium press release on May 8, 2024

2. South West Arkansas Project Definitive Feasibility Study dated October 14, 2025; max grade referenced in press release dated July 15, 2025

3. Standard Lithium press release on January 16, 2025; DOE grant awarded to SWA Lithium LLC, a jointly-owned U.S. subsidiary of Standard Lithium and Equinor for initial phase of SWA Project

4. Standard Lithium press release on April 21, 2025

5. Inferred resource per Standard Lithium press release on September 24, 2025; max grade referenced in press release dated October 25, 2023

6. The Company's Demonstration Plant is located at the Lanxess South facility near El Dorado, AR. Further commercial development of the Lanxess Property Project has not been ruled out, but the Company's focus is centered on the joint venture ("JV") opportunities in South West Arkansas and East Texas

South West Arkansas: First Planned U.S. Commercial DLE

MILESTONES

DLE De-Risking Complete¹

Successful field-test surpassed key performance criteria

FEED & DFS Complete

DFS technical report released October 2025

Targeting Construction in 2026 Shortly After FID

Offtake and debt finance process well-advanced

HIGHLIGHTS (100% Ownership Basis)²

22,500 TPA

Lithium Carbonate Production Capacity

2028

Targeted First Production

549 mg/L

Initial Grade at Start of Production

481 mg/L

Average Grade over Plant Operating Life

1.5Mt

Total Lithium Carbonate Equivalent Resource⁴

\$1.7bn

Unlevered Pre-Tax NPV³

20%

Pre-Tax IRR³

\$1,449mm

Total Capex

\$4,516 \$/t

Average Annual Cash OPEX

20+ Year

Modelled Operating Life

Note: All model outputs are expressed on a 100% ownership basis with no adjustments for project financing assumptions. Standard Lithium's economic interest in the SWA Project is 55%. Any discrepancies in the totals are due to rounding effects

1. Standard Lithium press release dated March 11, 2025

2. South West Arkansas Project Definitive Feasibility Study dated October 14, 2025

3. Assumes \$22,400/t lithium price based on average of Fastmarket's 20-year forward pricing curve

4. Includes measured & indicated resources and inferred resources; shown inclusive of reserves

East Texas: A Premier Global Lithium Asset

MILESTONES

Land Leasing Ongoing

Brine mineral leasing ongoing
since 2022

Maiden Resource Definition Complete

Released September 2025 for
Franklin Project (first of three)

Progressing to PFS

With further planned drilling and
resource characterization

HIGHLIGHTS (100% Ownership Basis)¹

806 mg/L²

Highest Recorded Lithium
Concentration²

668 mg/L

Average Lithium Concentration

100,000+ TPA

Potential LCE Production in Phases
Over Total East Texas Footprint
(including Franklin)

2.2Mt

Total Inferred Lithium
Resource (LCE)

15.4Mt

Total Inferred Potash
(Potassium Chloride)
Resource

2.6Mt

Total Inferred Bromide
Resource

80,000

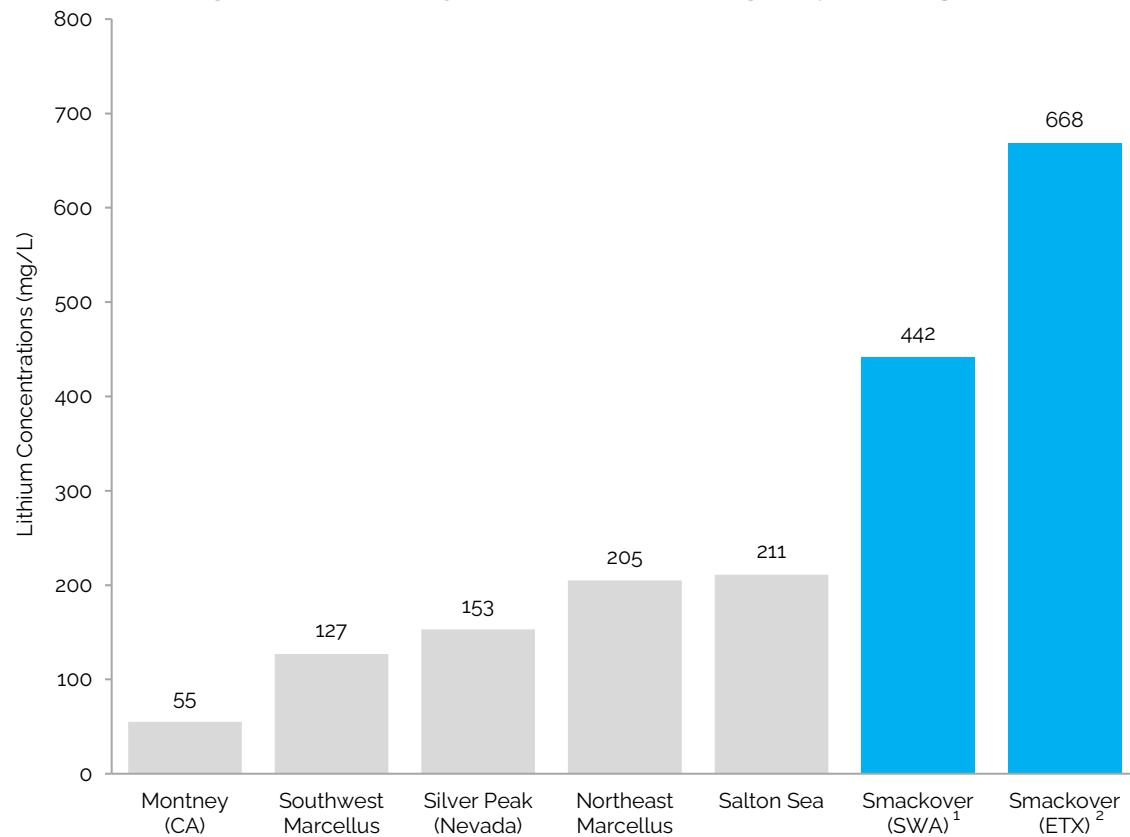
Acre Project Area

1. Inferred resource for Franklin Project per Standard Lithium press release on September 24, 2025. Standard Lithium's economic interest in the East Texas Projects, including the Franklin Project, is 55%
2. Standard Lithium press release on October 25, 2023

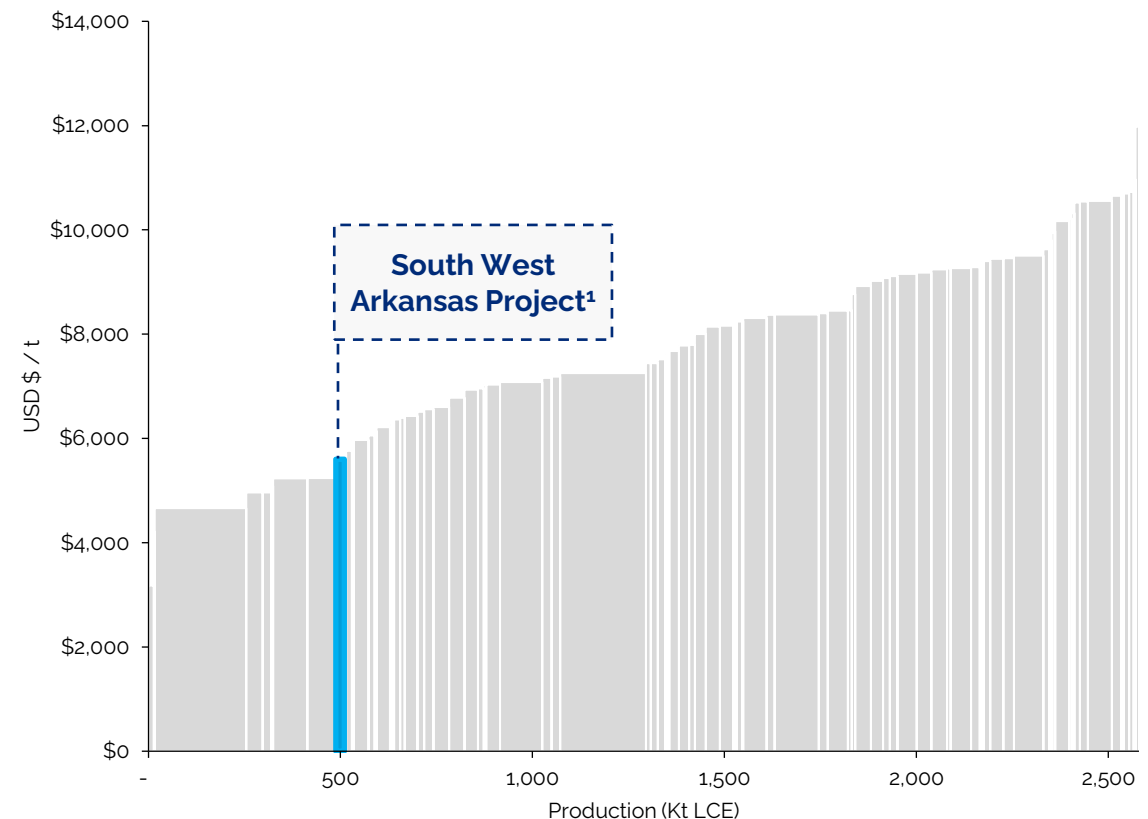
Compelling Economics Driven By High Grades

The Smackover Formation's high lithium concentration drives low-cost estimates –
Standard Lithium anticipates its projects to rank among first quartile on global lithium cost curve

NORTH AMERICAN BRINE LITHIUM GRADES



GLOBAL LITHIUM PRODUCTION COST CURVE³



1. South West Arkansas Project Definitive Feasibility Study dated October 14, 2025. Average lithium concentration of Measured & Indicated Resource. Average operating costs based on annual production capacity of 22,500 tonnes of lithium carbonate. Includes royalties and excludes sustaining and closure CAPEX
 2. Inferred resource per Standard Lithium press release on September 24, 2025
 3. Source: Benchmark Minerals Q3 2025 Lithium Forecast. Reflects C1 costs which include mining/extraction, processing, G&A, off-site transportation, port loading & storage, concentrate shipping, chemical conversion, chemical shipping, by-product credits *plus* royalties/production taxes. Based on 2030 LCE production and cost

Strong U.S. Government Support

Support from Department of Energy and Executive Office's National Energy Dominance Council reinforces SWA Project importance and development timeline

Recipient of \$225m DOE Grant

- Received a **\$225 million grant from the Department of Energy** to support the SWA Project's construction¹
- Grant aims to **increase production of critical minerals in the U.S.**



Designated as Federal Transparency Project

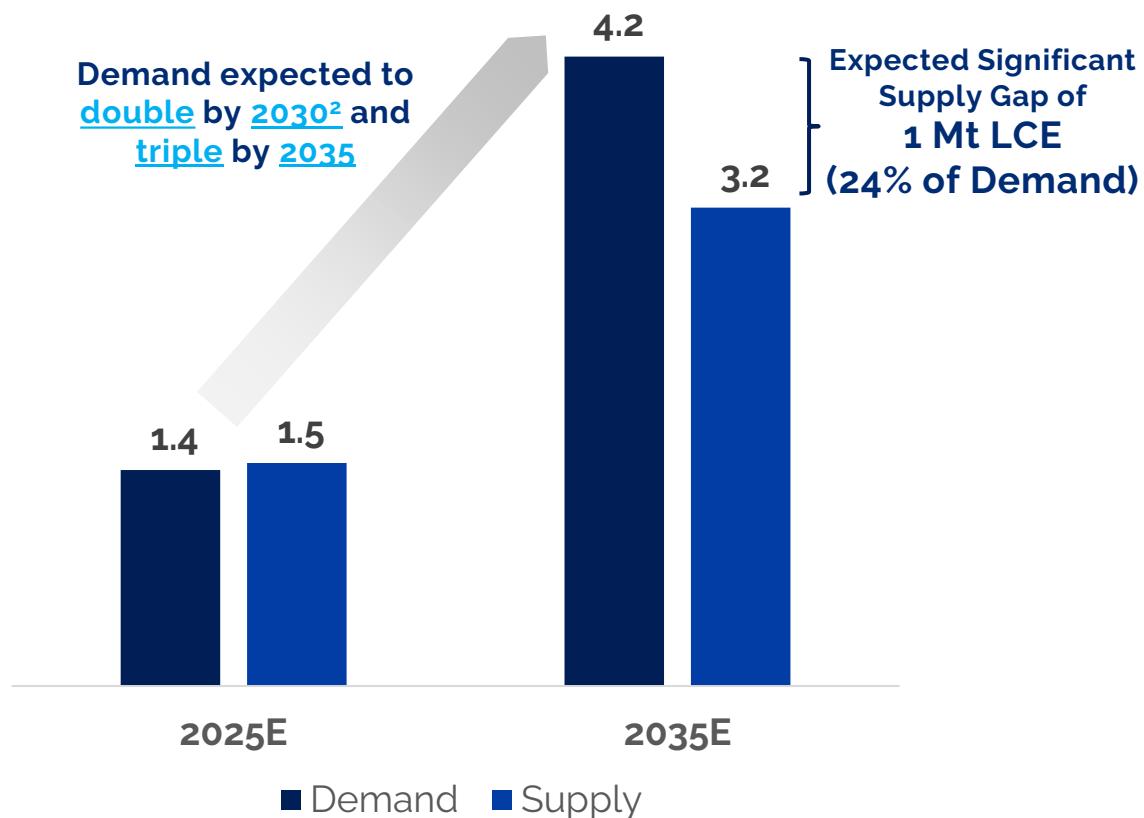
- SWA Project has been included on the Federal Permitting Dashboard as a **FAST-41 transparency project**²
- SWA is one of a small group of domestic lithium projects with this designation

1. Standard Lithium press release on January 16, 2025; DOE grant awarded to SWA Lithium LLC, a jointly-owned U.S. subsidiary of Standard Lithium and Equinor for initial phase of SWA Project

2. Permitting Council press release dated April 18, 2025, "Trump Administration Advances First Wave of Critical Mineral Production Projects". Inclusion on the Permitting Dashboard as a FAST-41 transparency project highlights the project's role in advancing domestic critical mineral lithium production and supporting U.S. energy independence but does not create an assumption of project approval, favorable review or federal funding.

Compelling Lithium Market Fundamentals

GLOBAL LITHIUM DEMAND & SUPPLY (MT LCE)¹



Lithium is Powering Artificial Intelligence (AI)

- Unprecedented need for power from generative AI driving a projected **29% CAGR** for the energy storage market in the U.S.³
- Global use of lithium in battery storage systems expected to grow at a **14% CAGR** over the next 10 years¹

Lithium is Driving Electric Mobility

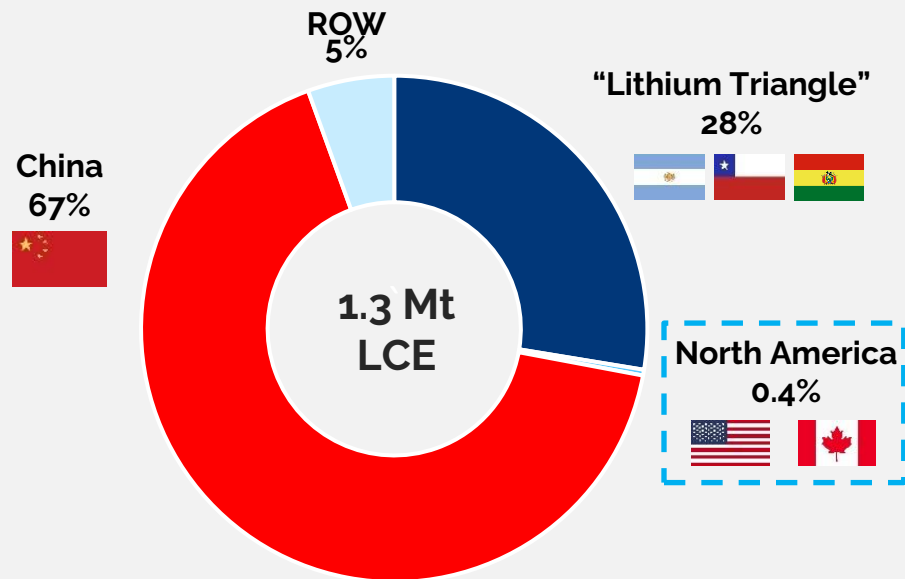
- Lithium demand from EVs expected to grow at **21% CAGR** in the U.S. over the next 10 years, outpacing the projected **13% CAGR** for global demand growth from EVs¹

1. Source: Q3 2025 Fastmarkets Lithium 10-Year Forecast. CAGRs shown for 2025E – 2035E
 2. 2030E projected demand and supply of 2.8Mt LCE and 2.7Mt LCE, respectively
 3. Source: Global Market Insights report "U.S. Energy Storage Market Size – By Technology, By Application, Analysis, Share, Growth Forecast, 2025 – 2034" dated March 2025

Growing Need for Domestic U.S. Lithium

U.S. Highly Reliant on China and Other Countries for Lithium

2025E LITHIUM CHEMICALS PRODUCTION BY REGION¹



North America accounts for ~13% of global lithium demand with minimal lithium chemical production today

Conventional Lithium Assets Facing Challenges

Water scarcity making traditional low-cost brine pond growth challenging

Lengthy permitting timelines, with vocal stakeholder or activist concerns

Governments seeking greater share of economics or supply chain

Spodumene processing dominated by China (~80% in 2025)¹

Strategic Access to Domestic Market



U.S. needs significant supply growth to meet forecasted lithium demand

- We believe our advantaged location gives SLI a competitive edge to be a key supplier to **emerging energy storage, electric vehicle and battery manufacturing markets in North America**
- Existing access to road, rail, navigable rivers, and close tie-in to gulf coast are key sustainable strategic advantages to SLI's asset base
- Local workforce and regulatory regimes that have over half a century of experience, oil and gas production, refining and chemical manufacturing



~100 Miles to TX



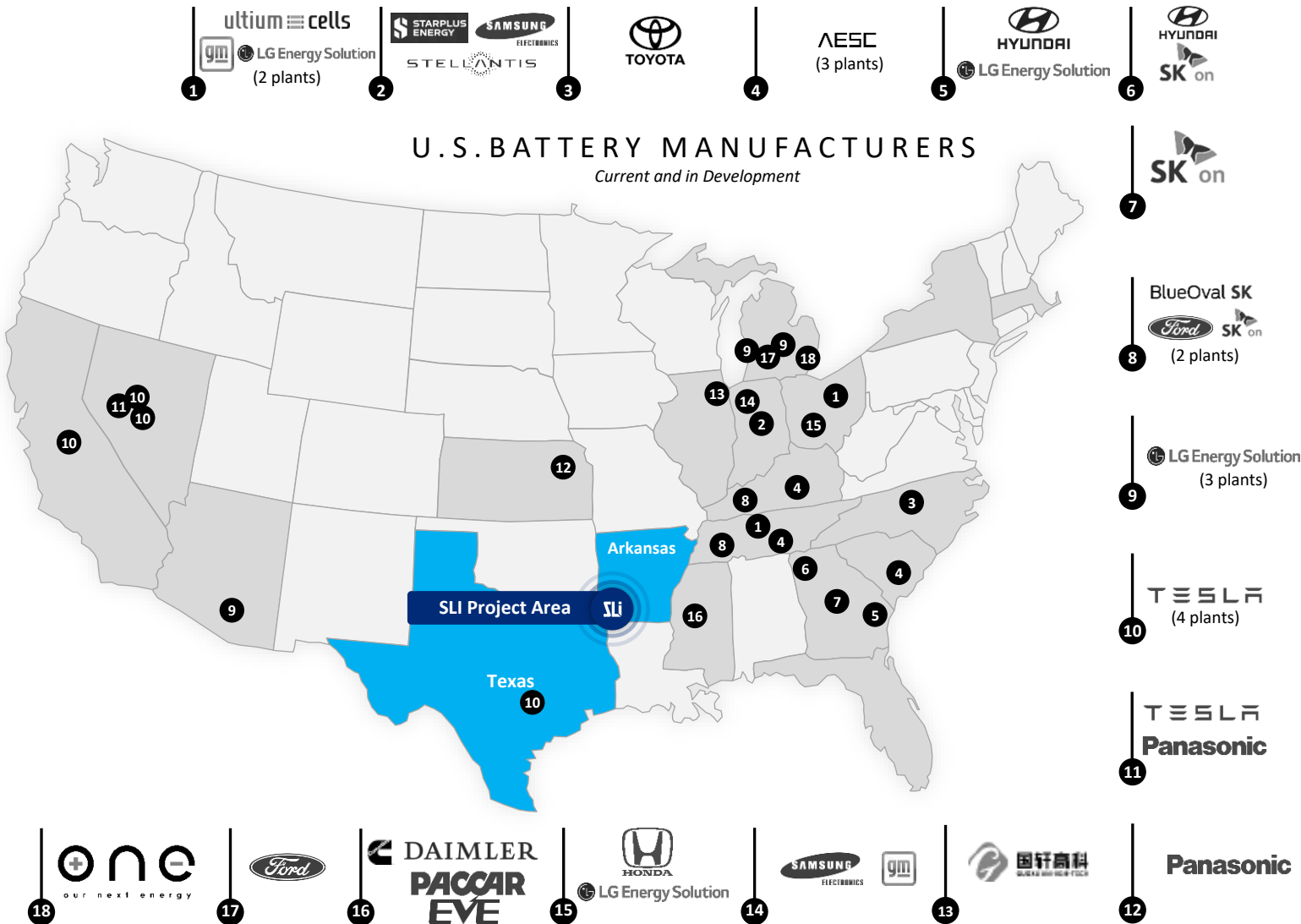
~700 Miles to TN



~1,000 Miles to MI

Current Supply Chain

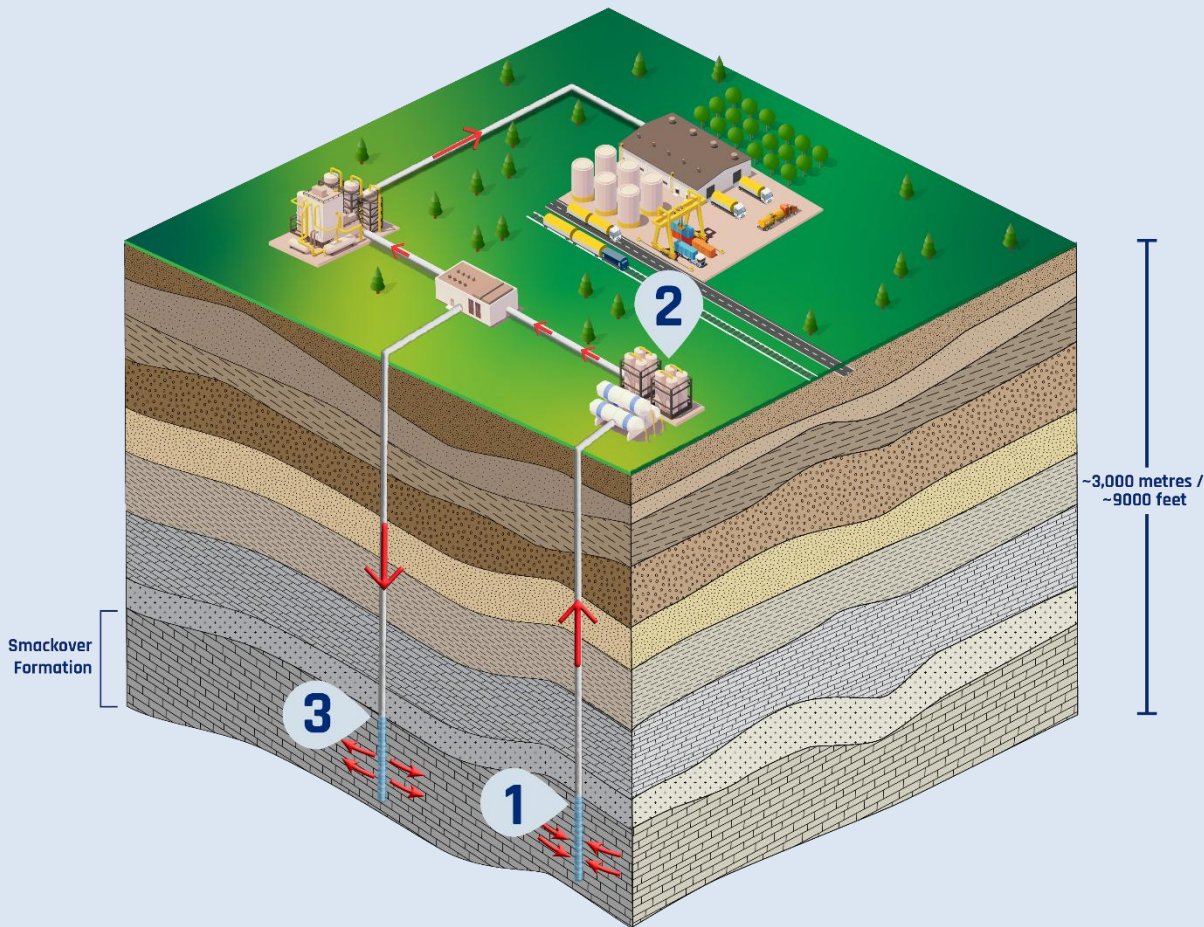
20,000+ Nautical Miles to U.S. Manufacturing¹



¹ Assumes mining location in western South America or Australia, refining in China, cathode production in Korea, and OEM destination in the US

High Value Strategic Partnerships

From Brine to Battery Grade Lithium – Leveraging Strategic Partnerships



Refining and Direct Lithium Extraction

- Utilizing Aquatech's proprietary Lithium Selective Sorption (LSS) process across the Smackover
- Standard Lithium has regional exclusivity in the Smackover for the LSS process



Reservoir and Well Development

- Equinor's proven capabilities in reservoir and well development support project success



Production and Reinjection

- Equinor brings significant experience in designing and delivering onshore facilities
- Standard Lithium's Demonstration Plant provides de-risking and valuable learnings to go forward production

De-Risked DLE Technology

✓ Operating commercial-scale demonstration plant

- Lithium Selective Sorption (LSS) unit supplied by KTS (now Aquatech) is believed to be the largest known commercial-scale column operating in a DLE facility
- Achieved >95% lithium recovery and average key contaminant rejection of >99% during a 4-month continuous operating period
- Processed 35 million gallons of brine since 2020, equating to 142 tonnes of LCE¹

✓ Successful field-test at SWA Project

- Performed field test on brine from an SWA well and achieved >99% lithium recovery and rejection of key contaminants²
- Field test produced 970 gallons of purified 6% lithium chloride solution²
- Viewed as final testing of flowsheet and underpins SWA Project's FEED and DFS

✓ Technology performance guarantee from Aquatech

- License agreement with Aquatech to deploy and use their DLE technology includes certain technology performance guarantees:
 - +95% lithium recovery and +99% contaminant rejection (including calcium, sodium, potassium, and magnesium)
- Includes water use, as well as security of supply for the sorbent

1. Illustrative calculation based on assumed 90% lithium recovery at average input of 220 mg/L; does not reflect actual LCE produced or sold
2. Standard Lithium press release dated March 11, 2025

Large Demonstration Plant in Operation Since 2020



Pathway to Final Investment Decision at SWA

Key Milestones at South West Arkansas

Royalty



Received royalty rate approval from the Arkansas Oil and Gas Commission for Phase I of SWA Project¹

FEED & DFS Results



Flowsheet has been finalized & DLE technology de-risked through successful field test at SWA

Customer Offtake



In advanced discussions with several offtake counterparties

Project Finance



Discussions well-progressed, with final negotiation subject to results of offtake discussions

Project milestones expected to be completed sequentially prior to Final Investment Decision (FID)

Construction is expected to commence in 2026 shortly after FID, with first production targeted in 2028

Capital Formation “Pyramid”

Standard Lithium is committed to maximizing shareholder returns through a strategic and methodical approach to capital formation

Leveraging strategic partnerships to maximize project success

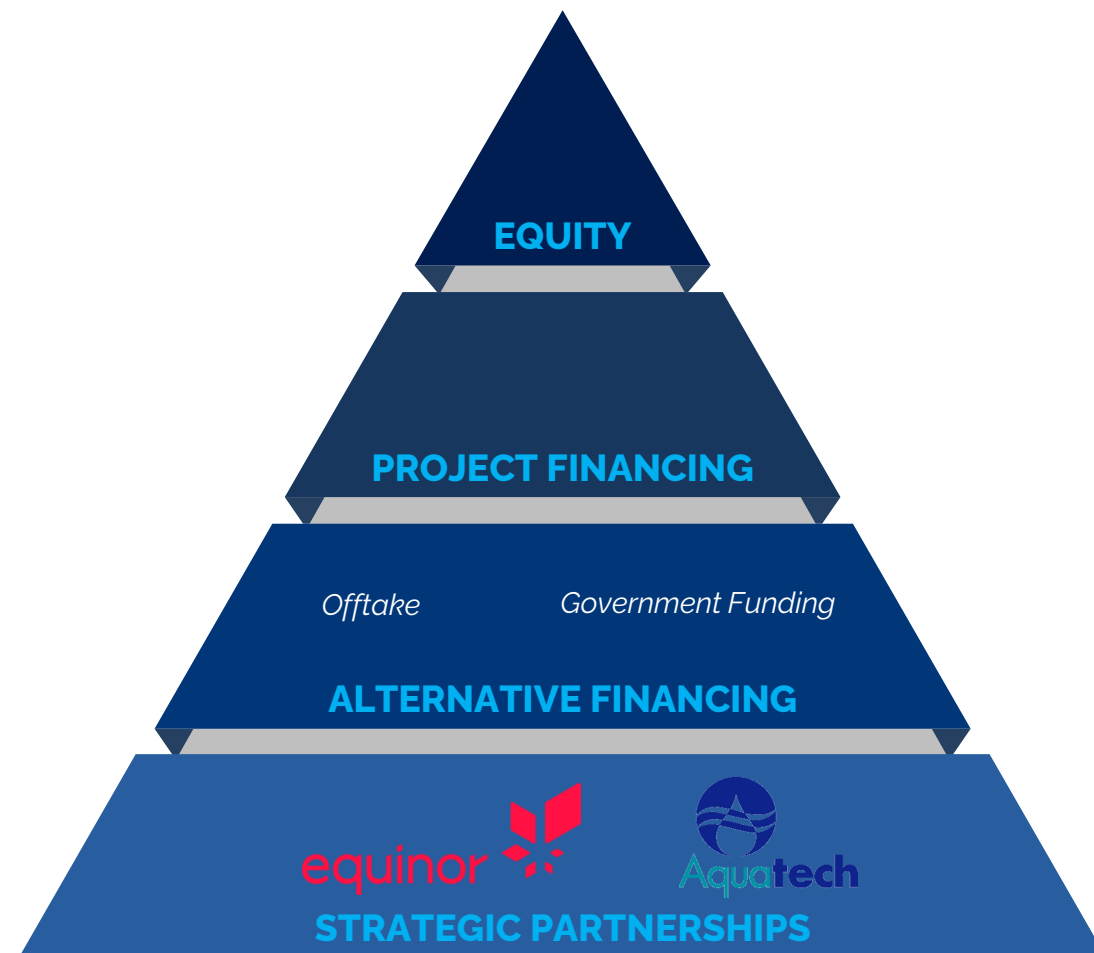
- Standard Lithium has secured investments from Equinor and Koch Industries
- Industry-leading partners bring technical, operational and strategic capabilities in addition to financial strength

Prioritizing low-cost, limited-recourse financing

- Closed \$225 million grant from the DOE which will support construction of Phase 1 of the SWA Project¹
- Process underway to secure project debt financing and customer offtake

Focused on maximizing shareholder value by limiting dilution

- Equinor investment done at the project level without issuance of any Standard Lithium shares
- **Prioritize and execute at the “base of the pyramid and build up”**, lowering the cost of capital as we de-risk the projects, minimizing parent company equity raise requirements



Capitalization & Liquidity



Financial Highlights

- Positive working capital with no revolving or term debt obligations as of June 30, 2025
- Closed a \$225 million grant from the DOE³, one of the largest ever awarded to a U.S. critical minerals project
- Largest shareholder (Koch, 6.6% of total outstanding shares) is long-standing strategic partner⁴

Liquidity & Capitalization¹ (USD millions)

Cash	\$33.8
Debt	\$0
Shares Outstanding (mm) ²	204.0
Share Price (USD)	\$5.26
Market Capitalization	\$1,073



Source: FactSet

1. Liquidity as of June 30, 2025, NYSE trading data as of October 13, 2025.

2. Shares Outstanding as of August 8, 2025 Management's Discussion & Analysis

3. DOE grant awarded to SWA Lithium LLC, a jointly-owned U.S. subsidiary of Standard Lithium and Equinor for initial phase of SWA Project

4. Ownership figures as per Koch, Inc. Form 13-F dated December 31, 2024



NYSE: **SLI** | TSX.V: **SLI**

Appendix

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Management Team



David Park
CEO & Director

David Park is an experienced executive with 28+ years in the energy and industrial sectors. He most recently served as President of Koch Strategic Platforms and previously as SVP of Strategy and Business Development at Georgia-Pacific, leading new platform acquisitions. He has held roles as President of TrueNorth Energy and CFO for Koch's Canadian exploration, pipeline, and energy trading business. Earlier in his career, he worked as an International Business Development Specialist at Atomic Energy of Canada Ltd. David holds a B.S. in Economics from Texas A&M University and an M.A. in Economics from George Mason University.



Dr. Andy Robinson
President, COO & Director

Andy Robinson is a Geoscientist, experienced executive, team builder and project developer with 25+ years of strategic and executive experience. Andy has held senior technical, corporate & executive roles with private and public resource, power and energy companies in Europe and North America. Andy is a pioneer in lithium extraction and purification technology and holds a Ph.D. in Geochemistry from the University of Bristol, UK.



Salah Gamoudi
CFO

Salah Gamoudi most recently served as EVP and CFO of SandRidge Energy (NYSE:SD) from 2020–2023, where the company delivered significant shareholder value over his tenure. He previously held senior executive roles at public natural resource companies, driving turnarounds, restructurings, and an IPO. Earlier in his career, he worked in energy and natural resources across private equity, audit, and consulting with LRR Energy, Lime Rock Resources, Deloitte, and Ernst & Young. Mr. Gamoudi earned an M.B.A. with honors from Wharton and a B.A. in Accounting from Portland State University. He is also a Certified Public Accountant.



Mike Barman
Chief Development Officer

Mike Barman has nearly 20 years of experience advising senior executives and boards, most recently as Managing Director in Investment Banking at Stifel Nicolaus Canada (formerly GMP Securities). While at Stifel, he advised on 30+ M&A and corporate transactions totaling over \$22 billion, and led or co-led 80+ financings, raising more than \$10 billion in equity and debt capital. He holds a Master of Financial Economics and an Honours B.A. in Economics from the University of Toronto, where he received the C.L. Burton Open Scholarship for academic excellence.

South West Arkansas Project | DFS Results

Definitive Feasibility Study Highlights

- **First production targeted in 2028** with initial capacity of 22,500 tpa battery-quality Li_2CO_3 . Would mark the first commercial lithium output from the Smackover Formation
- **20+ year operating life** supported by Resource & Reserve modeling with 481 mg/L average lithium concentration over production plan and ample opportunity for future expansion
- **Strong economics:** \$1.7bn unlevered pre-tax NPV, 20.2% IRR (8% discount) and \$22,400/t lithium price based on average of Fastmarket's 20-year forward pricing curve
- **Low costs:** Average operating cost of \$4,516/t and all-in cost of \$5,924/t
- **\$1.45B Total CAPEX:** Class III estimate informed by 18-month front-end engineering design, with 12.3% contingency and improved capital intensity expected on future expansion phases
- **Upgraded Resource definition:** Proven Reserves of 447,000 t LCE at 481 mg/L; Measured & Indicated Resource of 1,177,000 t LCE at 442 mg/L
- **First U.S. commercial DLE** using Aquatech Lithium Selective Sorption process with performance guarantees and regional exclusivity in Smackover under Joint Development Agreement³

Definitive Feasibility Study Summary¹ (100% Ownership Basis)

Annual Production Capacity of Li_2CO_3	<i>tpa</i>	22,500
Modeled Plant Operating Life	<i>years</i>	20
Brine Flowrate at Start of Production	<i>bbl/d</i>	148,000
Average Brine Flowrate over Modeled Plant Operating Life	<i>bbl/d</i>	168,000
Lithium Grade at Start of Production	<i>mg/L</i>	549
Average Lithium Grade over Plant Operating Life	<i>mg/L</i>	481
Total CAPEX	<i>\$mm</i>	1,449
Average Annual Cash OPEX	<i>\$/t</i>	4,516
Average Annual All-in OPEX ²	<i>\$/t</i>	5,924
Selling Price	<i>\$/t</i>	22,400
Discount Rate	<i>%</i>	8.0
Net Present Value (NPV) Pre-Tax	<i>\$mm</i>	1,666
Net Present Value (NPV) After-Tax	<i>\$mm</i>	1,275
Internal Rate of Return (IRR) Pre-Tax	<i>%</i>	20.2
Internal Rate of Return (IRR) After-Tax	<i>%</i>	18.2

Note: All model outputs are expressed on a 100% ownership basis with no adjustments for project financing assumptions. Standard Lithium's economic interest in the Project is 55%. Any discrepancies in the totals are due to rounding effects

1. South West Arkansas Project Definitive Feasibility Study dated October 14, 2025

2. Includes operating expenditures, royalties, sustaining capital and closure costs. Royalties include quarterly gross lithium royalty of 2.5% as approved by the Arkansas Oil and Gas Commission ("AOGC"), an additional brine fee of \$65/acre per year and override fees payable on certain optioned brine leases

3. For further details of acquisition of KTS direct lithium extraction technology see Aquatech press release dated September 16, 2025

East Texas | Resource Overview

Standard Lithium has secured a significant brine lease position, drilled and sampled lithium brine showing significant potential for large-scale production

	Total Inferred Resources (Franklin Project) ¹
Gross Aquifer Volume	15.67 km ³
Net Aquifer Volume	3.47 km ³
Average Porosity	17.5%
Brine Volume	0.61 km ³
Average Lithium Concentration	668 mg/L
Lithium Carbonate Equivalent	2,159 Kt
Average Bromide Concentration	4,343 mg/L
Bromide Resource	2,638 Kt
Average Potassium Concentration	13,286 mg/L
Potash (Potassium Chloride)	15,414 Kt



1. Inferred resource for Franklin Project per Standard Lithium press release on September 24, 2025
2. East Texas samples from March 28, 2023 and October 25, 2023 press releases

Technology | Proven at Commercial-Scale

- In March 2024, Standard Lithium successfully installed and commissioned the Li-Pro™ Lithium Selective Sorption (LSS) commercial scale unit supplied by KTS (now Aquatech)¹
- This unit is believed to be the largest known commercial-scale column operating in a DLE facility
- **On Oct. 28, 2024, SWA Lithium, the JV between SLI and Equinor which is developing the SWA Project, announced that it entered into a license agreement with KTS (now Aquatech) to deploy and use their Li-Pro LSS technology at the JV's commercial plant for SWA Phase 1**
 - The license agreement includes certain technology performance guarantees for lithium recovery (+95%), contaminant rejection (+99%)², and water use
- During a four-month continuous operating period (1st April to 31st July 2024), the Li-Pro LSS process achieved:
 - Avg. lithium **recovery efficiency of 95.4%**
 - Avg. key **contaminant rejection of +99%**
- Over **12,000 operational cycles** using Li-Pro™ LSS technology at the Demonstration Plant and roughly **35 million gallons (830,000 barrels)** of Smackover brine processed in total since 2020
 - Equates to **approximately 142 tonnes LCE** processed through the Company's DLE flowsheet³



1. For further details see Aquatech press release dated September 16, 2025
 2. Impurities included in performance guarantee include calcium, sodium, potassium and magnesium
 3. Illustrative calculation based on assumed 90% lithium recovery at average input of 220 mg/L; does not reflect actual LCE produced or sold

SWA | Successful Field-Test

Successfully completed the de-risking of our DLE technology with a field-test at South West Arkansas

- Field-pilot DLE facility exceeded key performance criteria to confirm engineering design – ***recovered over 99% of lithium from brine, sourced from SWA Project well***
- Rejection of key contaminants all within acceptable tolerance of design criteria
- Field-pilot plant completed nearly 500 DLE cycles, processing 2,385 barrels of brine
- Approximately 970 gallons (23 barrels) of concentrated and purified lithium chloride solution (6% LiCl solution) produced
- Lithium chloride solution sent off-site to potential equipment vendors for conversion into battery-quality lithium carbonate with positive results
- ***Samples expected to play a key role in qualification process with prospective off-take partners***
- Field-test is viewed as ***final testing of flowsheet*** and results underpin the SWA Project's FEED and DFS
- Data from field-test supplements the roughly 35 million gallons of brine processed at Standard Lithium's Demonstration Plant since 2020



Equinor | International Pioneers in the Energy Transition

Equinor are energy experts and world-leaders in renewable and low carbon solutions



An international energy company headquartered in Norway with operations in oil & gas, renewables and low carbon solutions

Equinor is a leading multinational energy company with operations across 36 countries

- Historically focused on oil & gas, Equinor has expanded its presence in renewables & low carbon as well as innovation and digital
- Equinor has a strong commitment to sustainability, evidence of which can be found in its commitment to the battery value chain

Equinor is a global premier resource developer with significant experience in project development and onshore facilities

- In addition to significant experience in subsurface assessment and production, Equinor has a track record of project development and execution with onshore facilities around the world
- Equinor's ability to provide resource development and facilities expertise significantly de-risks project execution

Equinor is one of the world's largest energy companies

- Equinor brings a multi-billion dollar market cap and investment grade balance sheet to support project execution

Aquatech | Critical Minerals & Metals Resource Recovery



Aquatech brings significant expertise in lithium extraction and refining



Enabling the energy transition by delivering complete water and process technology solutions to solve water scarcity and ensure critical minerals security

Pioneering sustainable solutions

- Established in 1981 in Canonsburg, Pennsylvania with offices throughout the US, India, Europe, the Middle East and China, and a process technology R&D center in Wisconsin
- Successfully executed more than 2,000 site solutions in over 60 countries globally
- End-to-end process solutions to produce technical and battery-grade lithium hydroxide, lithium carbonate and lithium salts
- Received minority growth investment from Cerberus' Supply Chain and Strategic Opportunities platform in April 2025

Significant alignment between Standard Lithium and Aquatech¹

- Joint Development Agreement with Aquatech (successor to Koch Technology Solutions) to collaborate on technology & process solutions for commercial DLE
- License agreement to deploy and use Li-Pro LSS technology at the commercial processing facility for initial phase of the SWA Project²

1. Aquatech acquired Koch Technology Solutions direct lithium extraction technology. For further details see Aquatech press release dated September 16, 2025
2. Standard Lithium press release dated October 28, 2024; license agreement was executed by SWA Lithium, the JV between Standard Lithium and Equinor which is developing the SWA Project

Leading a new era of responsible lithium production in America

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